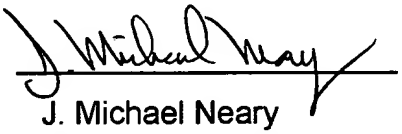
18. A flywheel system as defined in claim 17, wherein:

said spline teeth of said liner have a Poisson's Ratio which causes said teeth to be compressed under their own centrifugal loading as said rotor is spun to operating speed, causing said teeth to become wider, thereby tightening the connection between the liner teeth and hub, to help keep the rotor stable.

Remarks

Applicants respectfully request entry of this amendment in connection with the appeal from the final rejection in this application.

Respectfully submitted,



J. Michael Neary
Attorney for Applicant
Reg. No. 25,453

542 SW 298th Street
Federal Way, Washington 98023
voice: (253) 941-7683; fax: (253) 941-3623

Appendix Showing Changes to the Claims

7. (Twice Amended) A [hub for a high speed] flywheel system, comprising:

a flywheel hub having radial splines;

a flywheel rim and a flywheel rim liner in compressive contact with said rim, said flywheel rim liner having radial projections mating with said splines to form a torque transmitting coupling between said hub and said liner that maintains concentricity between said hub and said rim liner;

said flywheel rim liner made of a material having a strain-to-failure capability and a ratio R_l equal to E_l/ρ_l, wherein E_l is a hoop modulus of elasticity of said rim liner and ρ_l is the density of said rim liner material;

said rim liner strain-to-failure capability and ratio R_l being such that said rim liner remains in compressive contact with said rim [from start to maximum speed] throughout operation of said flywheel system.

10. (Twice Amended) A process of coupling a flywheel rim to a flywheel hub, comprising:

mounting said rim on a rim liner; and

coupling said rim liner to said hub with a torque coupling that allows said liner to grow radially with respect to said hub while remaining concentric thereto during [high speed] operation.

13. (Amended) A process as defined in claim 10, wherein:

said rim includes an inner annulus of E-glass/epoxy and an outer annulus of carbon fiber/epoxy having less material than said E-glass annulus;

whereby said carbon fiber/epoxy annulus is large enough to provide sufficient hoop strength to contain radial forces created in said rim by [high speed] rotation while allowing significant radial growth of said rim away from said hub, and said rim liner maintains torque coupling and concentricity of said rim and said hub during said operation despite said radial growth.

15. (Amended) A flywheel system, comprising:

a hub;

a flywheel rim concentric on said hub having a carbon fiber/epoxy outer annulus and, contiguous therewith, an E-glass inner annulus with an inner circumferential surface;

a rim liner engaged with said inner circumferential surface of said inner annulus;

said rim liner being made of a material that grows radially with said rim and has sufficient strength to transmit torque between said rim and said hub during flywheel spin-up and during energy recovery from said flywheel; and

a torque coupling between said hub and said rim liner that allows said liner to grow radially with respect to said hub while remaining concentric thereto during [high speed] operation.

18. (Amended) A flywheel system as defined in claim 17, wherein:

said spline teeth of said liner have a Poisson's Ratio which causes said teeth to be compressed under their own centrifugal loading as said rotor is spun to [high] <u>operating</u> speed, causing said teeth to become wider, thereby tightening the connection between the liner teeth and hub, to help keep the rotor stable.